Docket No.: B0651.70012US00
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Keith Goldstein et al.
Serial No.:	10/635427
Confirmation No.:	7341
Filed:	August 6, 2003
For:	TRANSACTION CARD FABRICATION CONTROL SYSTEM AND METHOD
Examiner:	Allyson Neel Trail
Art Unit:	2876

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

We, Keith E. Goldstein and Stuart Blank, hereby declare and state as follows:

1. This Declaration is submitted as evidence that the subject matter claimed in the above-identified application was invented prior to June 28, 2002.

2. We are the persons named as inventors in the above-identified application.

3. Prior to June 28, 2002, we conceived and reduced to practice in the United States the invention of claims 1-33 and 37-56 in the above-identified application.

4. Exhibit A attached hereto is a copy of a draft application prepared for and provided to us by Robert E. Hunt of Wolf, Greenfield & Sacks, PC, for review prior to June 28, 2002 in preparation for filing U.S. provisional application 60/405,243, filed August 22, 2002. Exhibit A also includes a copy of an email letter with which the draft application was forwarded. The date that the email was sent was redacted prior to its copying.

5. The draft application included in Exhibit A accurately describes the invention we made prior to June 28, 2002 and provides support for currently pending claims in the above-identified application. For example, claims 1-9 of the draft application in Exhibit A substantially correspond to claims 1-6 and 18-20 of the above-identified application.

6. Prior to June 28, 2002, we supervised and participated in the actual reduction to practice of a system that was used to verify the accuracy of a group of gift cards. (The system was also used to verify the accuracy of several other groups of transaction cards, but only one such group is discussed herein.) The group included several thousand cards and was logically partitioned into multiple, discrete sets (or sleeves) of cards. The system included a reader that read an identifier (a printed bar code or magstripe representing an identifier) from each gift card in a set of cards carried by a conveyor. (In some cases, two identifiers were formed on each card, e.g., a bar code and magstripe) and both identifiers could be read and stored by the system.) A sensor was also used to detect the presence of individual cards on the conveyor, e.g., to indicate that a card is positioned for reading by the reader and trigger the reader to read the card's identifier. The identifier read from the cards uniquely identified each of the cards from other cards in the group and was usable in associating a transaction involving the card (such as a purchase of goods) with an issuee of the card (such as a future purchaser of the gift card). The system included a computer system arranged to compare the identifiers obtained from the reader to a stored list of identifiers for the gift cards. The stored list represented a set of identifiers that were intended to be included on each of the gift cards in the group. The computer system was arranged to provide an approval report (such as a printed, tamper-evident label to be affixed to a container in which the cards were located) only if the identifiers read from the cards matched corresponding identifiers in the stored list. The computer system was configured to determine whether sets of the gift cards included missing, duplicate or otherwise unexpected cards, and could determine whether the cards in a set were arranged in a specified sequence. The computer system was arranged to form a temporary file of identifiers read from a set of cards, insert that temporary file into a database, and compare the identifiers in the temporary file to identifiers in the stored list. The identifier comparison operation was initiated by an operator manually reading an identifier (i.e., reading the identifier using a handheld bar code

reader) from the first and last cards in a set while the cards were held in a container, i.e., a sleeve. That is, after the identifiers were read from all cards in a set, the cards were assembled into a container and the comparison operation initiated. The system was capable of prompting the operator to re-read an identifier from one or more cards in the sleeve that may have been earlier misread. The system could use the manually read identifier to complete its analysis, e.g., to determine if the card was properly located in the set. The system was enabled to store various types of information about the cards, such as a total number of cards in each set (or sleeve), a sleeve, box and/or pallet in/on which each card is located, a read or packaging status for each card, and other information.

7. Exhibit B includes an internal sales training document that was prepared and used prior to June 28, 2002 to educate sales staff regarding the operation and capabilities of the system described above in Item 6. Dates included in this document were redacted prior to its copying.

8. The document in Exhibit B provides evidence that the system generally described in Item 6 above was reduced to practice and used for processing of transaction cards, such as gift cards. This document provides details of the ScanGuard system that was implemented by which bar code information printed on gift cards could be read by custom design scanners and its accuracy verified against a customer's master file using proprietary software. The verification process involved checking for duplicates, missing cards and precise sequencing and counting of cards. When the verification process is complete, cards could be packaged into a sleeve, and a label affixed to the sleeve, carton and skid detailing the contents therein. The label would only be printed if the contents of the sleeve, carton and skid were accurately documented.

9. Exhibit C includes a one page report created prior to June 28, 2002 by the system generally described in Item 6 above. Dates included in this document were redacted prior to its copying.

10. The document in Exhibit C provides evidence that the system generally described in Item 6 was reduced to practice and used for processing of transaction cards. This document

provides a report of analysis for a sleeve of 500 cards, and includes information such as the number of expected cards, the number of cards scanned, and the number of cards misread, removed, replaced or missing from the sleeve.

11. We hereby declare that all statements made herein of our own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Date: 9/27/05

Keith E. Goldstein

Date: 9/27/05

Stuart Blank

Hunt, Robert

From: Hunt, Robert E.
Sent: : 10:35 AM
To: 'KEG@abco.com'
Subject: Application
Attachments: 607984_1.DOC

Keith, A draft of the application is attached. I would have liked more time to work on it, but have stopped to keep the costs down. I'll send the password and drawings by fax.

Bob

<<607984_1.DOC>>

TRANSACTION CARD FABRICATION CONTROL SYSTEM AND METHOD

FIELD OF THE INVENTION

This invention relates to controlling transaction card fabrication.

BACKGROUND OF THE INVENTION

Transaction cards, such as credit cards, identification cards, purchaser loyalty cards, prepaid telephone cards, and so on, are commonly manufactured using high speed encoding and printing apparatus. For example, many types of transaction cards must be personalized, i.e., encoded, printed, or otherwise processed so that each card in a given set of cards is uniquely identified from other cards in the set. For example, transaction cards in a loyalty card program may be encoded and/or printed to carry a unique identifier such as an alpha numeric string encoded in a magnetic stripe on the card or printed as a barcode on the card. This unique identifier allows each card in a group of cards to be uniquely identified with a particular issuee so that future transactions made with the card can later be associated with the issuee.

SUMMARY OF THE INVENTION

The inventors have appreciated that in some cases it may be desirable to provide large groups of transaction cards, i.e., groups having 1,000, 10,000, 100,000 or more cards, so there are no duplicate or missing cards in the group of cards and/or in a contiguous manner such that the cards are arranged in a specific sequence. For example, transaction cards may be arranged in numerical sequence according to an identifier encoded or printed on the cards, e.g., so card no. 1 precedes card no. 2, which precedes card no. 3, and so on. Providing the cards in a specific sequence may allow for easier inventory control of the cards and/or ensuring that previously unissued cards are still under the control of the issuer. Further, providing groups of cards so that there are no duplicate or missing cards in the group can avoid problems such as two different persons being issued cards with a same identifier (thereby causing confusion regarding to whom transactions made with a card bearing the identifier should be associated) in the case of duplicate cards, or causing

inconvenience or wasted time in determining whether a card has been lost or stolen in the case of missing cards from the group.

In one aspect of the invention, a comprehensive transaction card fabrication control system can ensure that a group of cards is produced and/or packaged in multiple card sets, or sleeves. A comprehensive audit trail may be generated that indicates precisely which cards are included in which sleeves, allowing accurate tracking of cards, assuring that there are no duplicate or missing cards in the group, and/or assuring that cards have been assembled from the appropriate component parts. Thus, a relatively large group of transaction cards, e.g., 1000, 10,000 or more cards, may be arranged in multiple sets, or sleeves, of smaller numbers of cards, e.g., 100, 200, 500 or more cards. Reports generated by the control system may allow an operator to determine exactly which cards are located in each sleeve and which component parts or other features each card may include. The system may also ensure that cards in each sleeve are arranged in a particular sequence.

BRIEF DESCRIPTION OF THE DRAWINGS

Illustrative embodiments in accordance with the invention are described below with reference to the follow drawings in which like numerals reference like elements, and wherein:

FIG. 1 is a schematic block diagram of a first embodiment in accordance with the invention;

FIG. 2 is a schematic block diagram of a second embodiment in accordance with the invention; and

FIG. 3 shows an example database table for use in accordance with the invention.

DETAILED DESCRIPTION

Fig. 1 shows a schematic block diagram of an illustrative embodiment in accordance with the invention. In this illustrative embodiment, a transaction card fabrication control system 100 includes a card manufacturing apparatus 2 that generates a group of transaction cards, i.e., a plurality of transaction cards which are all related to each other. For example,

cards in a group may be related to a particular job or customer, such as loyalty cards for a particular grocery store chain. The card manufacturing apparatus 2 may use any suitable process or combination of processes to generate the cards. Cards may be processed by the manufacturing apparatus 2 so that each card includes an identifier that is unique to the card and distinguishes the card from all others in the group. The identifier may take any suitable form, such as an alpha numeric string encoded in a magnetic stripe on the cards, a barcode printed on each card, biometric information associated with the card, information stored in an electronic memory on the card, etc.

Since the total number of cards typically produced in a group is quite large (10,000, 100,000 or more cards), the control system 100 may break the group down into card sets, or sleeves, of a more manageable size. Individual cards may be associated with a particular sleeve based on the card's identifier and the card/sleeve association information stored so that a detailed audit trail for cards in the group is maintained. Such an audit trail may allow the system 100 to ensure that there are no duplicate or missing cards in the group, and allow an operator to determine exactly which cards are located in which sleeve. This information may be useful, for example, if one or more sleeves are lost, stolen or damaged so replacement cards can be made, or particular cards inactivated.

Association of cards with individual sleeves may be made in different ways. For example, as cards for a particular sleeve are output by the manufacturing apparatus 2, the cards in the sleeve may be processed by a verification system 3 that reads information (an identifier) from the cards and uses the identifier to ensure that cards in the sleeve are properly associated with the sleeve. In one illustrative embodiment, one or more identifiers read from each card by the verification system 3 may be compared to a stored list of identifiers. If a matching identifier is located in the stored list, a database or other store of information may be updated to indicate that a card with the identifier has been read and is associated with a particular sleeve, i.e., the sleeve being processed by the verification system 3 when the identifier was read. As a result, each particular card read by the verification system 3 may be associated with a particular sleeve for later reference. The system may also ensure that all identifiers in the stored list are properly associated with one and only one card

by checking each identifier read from each card in the group against the stored list. If two cards are read having the same identifier, the system 100 may indicate the problem to an operator. Similarly, the system 100 may indicate if there are missing cards from the group, or from particular sleeves.

The stored list of expected identifiers may be generated in any suitable way, such as before any cards in the group are produced by the manufacturing apparatus 2. The stored list of identifiers may then be used by the manufacturing apparatus 2 to form identifiers on the cards. That is, identifiers from the stored list may be supplied to the manufacturing apparatus 2 and used to form identifiers on cards. Alternately, the stored list may be generated based on information from the manufacturing apparatus 2 indicating which identifiers have been formed on cards, e.g., as an identifier is formed on a card, the manufacturing apparatus 2 may indicate that a card with the identifier has been made and the identifier added to the stored list.

In the embodiment described above, sleeves may be generated "on the fly" so that particular cards and their identifiers are associated with a particular sleeve at or after the time cards are read by the verification system 3. In an alternate embodiment, called a "zero-gap" procedure, a detailed list of identifiers and the sleeves to which the identifiers are associated may be generated before cards are processed by the verification system 3. In this procedure, when cards for a particular sleeve are processed, identifiers read from the cards are compared to identifiers in the list and a check is also made that the card is associated with the proper sleeve. For example, if the stored list indicates that the identifier "ABC1" is associated with sleeve "01", but the card having the identifier "ABC1" is read by the verification system 3 during processing of sleeve "02", an error may be indicated to prompt correction by an operator. A check may also be made to ensure that there are no duplicate cards (cards having a same identifier) are present in a sleeve or between two different sleeves, or that there are no missing cards in a sleeve.

Further, comparison of identifiers read from cards for a sleeve may involve a check that the cards are arranged in a sequence that matches a sequence defined in the stored list. For example, the stored list may include a list of identifiers and the order in which cards

bearing the identifiers are to be present in a sleeve. Identifiers read from cards in a sleeve may be compared in the order they were read to the identifiers in the list to ensure that the cards are properly ordered.

Confirmation that the cards are in a proper sequence in a sleeve or otherwise properly associated with the sleeve may be provided by a report generated by the system 100, e.g., a label having an adhesive backing that is printed to indicate the sleeve number, the range of cards included in the sleeve, the customer, a job description, and any other suitable information. The label may be adhered to a boxed or otherwise packaged sleeve of cards to indicate that the sleeve is complete and ready for shipment, storage or other use.

As discussed above, the card manufacturing apparatus 2 may include any suitable devices to perform desired card manufacturing functions. In the illustrative embodiment shown in Fig. 1, the system 100 includes a card feeder 21 that supplies cards onto a card transport 27, such as a conveyor belt. Although the cards may be arranged in any suitable way, in this illustrative embodiment, the cards include a magnetic strip and an area on which a barcode may be printed. A unique identifier, such as an alpha-numeric string, along with other optional information may be encoded on the magnetic strip of the cards by an encoder 22 as the cards are moved by the card transport 27. Details regarding the operation of the encoder 22 and other portions of the manufacturing apparatus 2 are not provided as these operations are well understood by those of skill in the art. A magnetic strip reader 23 may read the encoded magnetic strip on each card, e.g., to ensure that the strip has been properly encoded. A printer 24, such as an ink jet printer, a laser marking apparatus, embossing device, or other suitable device for marking the cards, may print a barcode or other unique identifier on the cards. Information printed by the printer 24 may match information encoded on the magnetic strip. For example, a unique alpha numeric identifier may be both encoded in the magnetic strip and printed in barcode form on the cards. A camera 25 may image the information marked on the cards by the printer 24 to ensure that the cards have been properly marked. Improperly processed cards, such as cards that are improperly encoded, printed or otherwise processed, may be removed from the card transport 27 by a card diverter 26, e.g., a gate or other device that physically removes cards from the transport

27. Cards removed from the transport 27 may be cycled back to be reprocessed, or discarded.

The controller 1, which may or may not include the terminal 33, communicates with the card manufacturing apparatus 2 and/or the card verification system 3 to control operation of the system 100 and/or provide information to an operator. The controller 1 may be, or include, one or more general purpose computers including any suitable software and/or other components to perform the desired input/output or other functions. For example, the terminal 33 may provide local control for the manufacturing apparatus 2 and/or the verification system 3 under the overall, system-level control of the controller 1. The terminal 33 may include user input devices, such as a keyboard, mouse, barcode scanner, touch screen or other devices to provide input to the terminal 33 or the controller 1. A printer 34, video monitor or other display may provide output information to the user, including printed hard copy reports, processing status information, or other information.

Although the verification system 3 may include any suitable device(s) to read identifiers from cards and perform other desired functions, in this illustrative embodiment, the verification system 3 includes a card sensor 31 and a card reader 32 that receive cards on the card transport 27 downstream from the manufacturing apparatus 2. The card sensor 31 may operate to sense cards as they pass on the transport 27, e.g., to trigger reading of an identifier on a card by the card reader 32. The card sensor 31 may also indicate the presence of an unreadable or unread card if the card reader 32 fails to read an identifier from a card or if the card does not include a readable identifier. Such information may be valuable since improperly formed cards may be removed, or remade or reprocessed by the manufacturing apparatus 2.

In the Fig. 1 embodiment, the card manufacturing apparatus 2 may be controlled to make sleeves of cards in a contiguous fashion so the verification system 3 can verify the integrity of the sleeve as it is produced by the manufacturing apparatus 2. For example, an operator may instruct the controller 1 (via the terminal 33) that a particular sleeve of cards has been output by the manufacturing apparatus 2 and should begin processing by the verification system 3. (Alternately, the controller 1 may itself increment or otherwise

initiate processing of a sleeve by the verification system 3 without input from an operator. For example, the controller 1 may automatically begin processing a first sleeve when the first card in a group is output by the manufacturing apparatus 2 and automatically initiate processing of subsequent sleeves every time after a certain number of cards in the sleeves, 100, 200, or more cards, are output by the manufacturing apparatus 2.) Once the cards are output by the manufacturing apparatus 2, the card sensor 31 can sense the presence of individual cards and the card reader 32 can read a unique identifier on each of the cards, such as an alpha numeric string encoded in a magnetic strip, printed as a barcode on the card, or other information, to identify each card in the sleeve. The information provided by the card sensor 31 and card reader 32 then may be used by the controller 1 to determine if all cards in the set are present and/or are organized in a particular sequence by comparing the read identifiers to a stored list of expected identifiers. If the cards sensed by the card sensor 31 and card reader 32 are present and/or organized in a desired sequence for the set, a report may be generated that indicates the set is complete and ready for packaging. The report may be an electronic document that is stored at the controller 1, a label that is printed by the printer 34, or any other suitable information set that confirms a set of cards has been confirmed to be in a proper order and/or contains all cards in the set. Complete card sets then may be packaged, e.g., placed in a box and closed for shipment. Accordingly, once a set of cards has been packaged, the card fabricator can be sure that all cards in the set are contained within the box and/or organized in a desired sequence.

Fig. 2 shows a second illustrative embodiment in accordance with the invention. In this illustrative embodiment, a transaction card fabrication control system 100 includes two or more verification stations 3 that communicate with a central controller 1. Unlike the Fig. 1 embodiment, in this embodiment previously fabricated cards may be provided to each verification station 3 at some time after the cards are output by a manufacturing apparatus 2. Thus, the system 100 in Fig. 2 may allow the integrity of card sets to be verified where the cards are manufactured off-site, or at some time in the past by a manufacturing apparatus that is physically distant from the verification systems 3. The Fig. 2 embodiment also does not require the verification system 3 to process cards at a same rate that the manufacturing

apparatus 2 produces cards. For example, a manufacturing apparatus 2 may output cards at a rate of 10,000 cards/hour or higher. By having verification systems 3 separated from the manufacturing apparatus 2, the verification systems 3 may operate at a lower processing rate. In addition, having multiple verification stations 3 operating under a central controller 1 allows the information produced by each verification station 3 to be integrated together, if necessary, when multiple verification stations 3 are verifying the integrity of card sets for a same group of cards. Alternately, the verification stations 3 may verify the integrity of card sets for different card groups while having the verification information compiled at a central location.

Although the verification stations 3 may be arranged in any suitable way, in this illustrative embodiment, each verification station 3 includes a card feeder 21 into which fabricated cards are provided. The card feeder 21 then may feed the cards onto a card transport 27 which moves the cards relative to a card sensor 31 and card readers 32. Although two card readers 32 are shown in this illustrative embodiment, e.g., to read one or more identifiers from each card, each verification station may include any suitable number or type of devices to verify the unique identity of each card. The card sensors 31 may include a photoelectric eye or other sensor that detects the physical presence of the cards and may then trigger reading by the card readers 32. In addition to triggering card reading, the card sensor 31 can indicate the presence of a card when the card reader 32 failed to read an identifier or other information from a card, as discussed above. This occurrence may indicate that an improperly read or unread card is present in the set and prompt an operator to correct the situation. For example, the operator may physically inspect the unread card to determine if the card has been improperly processed during manufacture, e.g., a barcode has not been printed on the card, or if the card readers 32 simply failed to read a properly manufactured card.

As mentioned above, a group of cards including a total of 1000, 10,000 or more cards may be logically organized into multiple sets of cards, or sleeves, before manufacture. Information representing the card organization into sets may be stored in the controller in a list, such as in database or any other suitable form. Fig. 3 shows an example table that may

be used to manufacture and/or verify the integrity of card sets. In this illustrative example, the table includes a **Card No.** column in which an arbitrary card number may be indicated. This card number may be used as a shorthand or otherwise easier way to reference particular cards in the group or in selected sleeves since card identifiers may be relatively long alpha numeric strings with apparently random sequencing. In this example, card numbers start at 1 and increment up to a total number of cards in the group, but other card numbering or other reference schemes may be used.

This illustrative database table also includes an **Identifier** column including the identifier for each card number. The identifier may be any suitable alpha numeric string or other information that uniquely identifies each card from other cards in the group. This unique identity of each card allows the identifier to be used in associating particular transactions with an issuee of the card. For example, if the transaction card is a customer loyalty card, purchases made using the card may be associated with the person or other issuee of the card.

The table in Fig. 3 also includes a **Sleeve** column for indicating the associated sleeve for each card. In this example, card numbers 1-10 are associated with sleeve "0001," card numbers 11-20 are associated with sleeve "0002," and so on. Again, any suitable numbering or other identification of sleeves may be used. The example table also includes a **Card Read Status** column for indicating whether a card having the identifier has been read by a verification station 3. That is, information in this column may indicate whether the identifier read from a card matches a corresponding identifier in the Fig. 3 table. For example, cards may be read by the verification system 3 one set, or sleeve, at a time and the identifiers read from cards within the sleeve compared to identifiers associated with the sleeve from the table. For example, cards in sleeve "0001" may be read and the identifiers obtained from the cards compared to the identifiers in the Fig. 3 table for all cards in sleeve "0001." If a card read in the sleeve has an identifier that matches one in the table, a "1" value or any other suitable value may be entered into the table to indicate that a card having the corresponding identifier has been read for the sleeve. In this example, card nos. 1-8 read for sleeve "0001" have identifiers matching identifiers in the Fig. 3 table as indicated by the

"1" value in the **Card Read Status** column. However, card 9 which has a "0" value in the **Card Read Status** column, indicates no card has been read to have an identifier matching that in the table. Card 10, which has a "2" value in the **Card Read Status** column, may have actually had two cards read in the sleeve having the identifier associated with card no. 10. This problem may have occurred because of a reading or data transmission error, or because there were two cards in sleeve "0001" having the identifier corresponding to that for card no. 10 and no card having the identifier for card 9. Since an error has been detected in reading cards for sleeve "0001," a "No" indication is entered in the **Sleeve Complete** column of the table. Thus, sleeve "0001" is not ready for packaging or shipment to a customer. Of course, if a card is read as having an identifier that is associated with the wrong sleeve, an appropriate indication, such as a "3" value in the **Card Read Status** column, may be recorded in the table. If desired, an additional column may be added to the table to indicate which sleeve(s) the erroneous card/identifier pair was read in so the card can be retrieved and placed in the appropriate sleeve. For example, if the verification system 3 is currently reading sleeve "0002" and reads a card having an identifier that is associated with sleeve "0001," the table may be updated to indicate the improper read in the **Card Read Status** column and the sleeve "0002" where the erroneous card is located indicated in the table as well. The table also may include any other suitable information, such as operator or verification station information as shown. Other information, including whether the sleeve has been packaged, shipped, or otherwise processed, or other information regarding a manufacturing history or other audit trail for the cards.

In some embodiments, the identifiers read from cards in each sleeve may be compared in the sequence that they were read to a sequence of identifiers in a stored list. This type of comparison can ensure that cards are arranged in a desired sequence that matches the identifier sequence in the stored list. Such a comparison may be performed in real time as each identifier in the sleeve is read from actual cards, or a temporary file may be built that stores the identifiers read from cards in the order in which the identifiers were read for cards in the sleeve. If a temporary file is built, the temporary file may be compared to a stored list of identifiers for the sleeve, such as the table shown in Fig. 3. For example, a

temporary file of identifiers read from cards in sleeve "0001" may be generated and compared, in the order that the identifiers were read, to the identifiers in the Fig. 3 table in the order they are listed. Such a comparison can assure that not only all cards with appropriate identifiers are included in a particular sleeve, but that the cards are arranged in a particular sequence in the sleeve.

Of course, the identifiers read from cards for each sleeve need not be compared in the order in which they were read to a stored list of identifiers. For example, the system 100 may compare identifiers read for cards in a sleeve without regard to the order in which they were read to ensure that all cards in the sleeve have an identifier that matches an identifier associated with the sleeve. Such a comparison also may ensure that no two cards have a same identifier in each sleeve and within the entire group of cards. Similarly, card identifiers need not be logically organized into sleeves before cards are read by the verification system 3. For example, the Fig. 3 table may be initially created with the **Sleeve** column empty. As cards are read in particular sleeves and their identifiers matched to those in the table, the sleeve in which the card and identifier is read may be indicated in the **Sleeve** column. This approach allows sleeves to be created "on the fly" by the system 100 while ensuring there are no duplicate or missing cards from a group of cards.

If any error is detected in reading cards in a sleeve, an operator may be directed to the problem card or cards, e.g., by information provided at the terminal 33 and rectify the problem. Once the problem has been corrected, the sleeve again may be read in its entirety to ensure that the sleeve is complete and the problem has been corrected. Once a sleeve is complete, the system 100 may generate a report that indicates one or more sleeves have been read as complete. For example, the printer 34 may print a label or other printed report that is associated with a corresponding complete sleeve of cards. This report may indicate the sleeve, card numbers or card identifiers included in the sleeve, or other information and may be required to release the sleeve for shipment to a customer. The report also may be stored electronically for future reference if necessary.

Initiation of sleeve reading may be made automatically by the verification system 3, e.g., after reading a specific number of cards in a sleeve as counted by the card sensor 31,

the verification system 3 may increment or otherwise logically go to a next sleeve for processing. Alternately, initiation of sleeve reading may be manually begun by a user inputting a sleeve number into the terminal 33 and instructing the system 3 to begin card reading. That is, an operator may load a sleeve of cards into a card feeder 21, enter the sleeve number into the terminal 33, and initiate reading of the cards. Before beginning, the system 100 may check to see if the sleeve has been previously read, and prevent reading or require supervisor intervention before proceeding. Such security can help prevent errors in sleeve entry into the terminal 33 and in appropriate rereading of sleeves. Once card reading is complete, the system may automatically begin comparing the identifiers read from cards to a stored list of identifiers. Alternately, a user may manually initiate the identifier comparison for the sleeve integrity check. For example, after cards for a sleeve have been read, an operator may gather the cards and place them in a tray or box. The operator may read an identifier for the first and last cards in the sleeve, e.g., using a terminal's hand-held bar code reader that reads a barcode identifier from the cards, and manually instruct the system to begin the comparison for the sleeve that begins and ends with the identifiers manually read by the bar code reader. (Alternately, the user may manually enter the sleeve number to initiate the integrity check.) After the processing is complete, the system 100 may indicate whether the sleeve is complete or not, i.e., whether there is a missing or duplicate card in the sleeve, the cards are out of sequence, etc., and the operator may take the appropriate action to rectify any errors or package a complete sleeve.

It should be understood that the basic concepts behind ensuring that cards are properly fabricated discussed above may extend to areas other than personalization of the cards, i.e., providing each card with a unique identifier. For example, cards typically are assembled from two or more components, such as separately printed front and back panels that are secured together to form the card. Clearly, a card must have the proper front and back panels associated with each other if the card is to be properly made. The various card portions that are assembled together may each include some sort of identifier that may be machine read before or during the time that the portions are assembled together and compared to stored information to ensure that the various portions should be combined

together to form the card. For example, a card front portion may include a barcode number and a back portion may include another barcode number. Before or at the time the front and back portions are secured together to form one or more cards, the barcode numbers may be read and compared to stored information to ensure that the appropriate front and back panels are being properly assembled to form the card(s). Such information may be included in a table such as that shown in Fig. 3 or in any other suitable form. It also should be noted that the database may be formed in any suitable way, such as a relational database. As a result, a comprehensive audit trail may be created for all stages of card fabrication, ensuring that cards are properly made at each processing step.

As mentioned above, transaction cards used with the invention may be formed in any suitable way using any suitable processes in accordance with the invention. For example, the manufacturing apparatus 2 may form holographic information on the cards, encode or otherwise provide information to an electronic chip or other device associated with each card (such as in the case with electronic cash cards), may mark the cards with biometric information (such as fingerprint, iris, or other information associated with an authorized user of the card), or otherwise process the cards. In addition, the transaction cards need not necessarily have the commonly-known credit card shape (also know as a CR80 shape), but instead may have any suitable shape and any suitable number of interconnected components. For example, each card may include a CR80 portion with attached keytags, coupon tags, or other portions. Portions of the card may be perforated, scored or otherwise formed so that the various portions may be separated from each other. Transaction cards may be made of plastic or paper sheets of material or any other suitable material.

While the invention has been described in conjunction with specific embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, preferred embodiments of the invention as set forth herein are intended to be illustrative, not limiting. Various changes may be made without departing from the spirit and scope of the invention.

CLAIMS

1. A transaction card fabrication control system comprising:

a card reader that reads an identifier from transaction cards that uniquely identifies each transaction cards from all other transaction cards in a group of transaction cards and facilitates an association of a transaction involving the transaction card with an isuee;

a card transport that moves transaction cards relative to the card reader;

a card presence sensor that detects the presence of transaction cards moved by the card transport; and

a controller that compares identifiers read from a set of transaction cards by the card reader to a stored list of identifiers for the set of transaction cards and generates an approval report only if all identifiers read from the set of transaction cards match all corresponding identifiers in the stored list.

2. The system of claim 1, wherein the controller generates an approval report only if the identifiers read from the set of transactions cards match all corresponding identifiers in the stored list and if the identifiers were read from the set of transaction cards in a sequence that matches a sequence in the stored list.

3. The system of claim 1, wherein the controller builds a temporary file of identifiers read from the set of cards and compares the identifiers to the stored list after all transaction cards in the set have been read by the card reader.

4. The system of claim 1, wherein the approval report includes a printed form that indicates the set of transaction cards includes all cards with identifiers matching a stored list of identifiers for the set.

5. The system of claim 1, wherein the controller stores a plurality of lists of identifiers each corresponding to an associated set of transaction cards and compares identifiers read from sets of transaction cards to a corresponding stored list of identifiers to determine if

transaction cards in the set have identifiers that match corresponding identifiers in the stored list.

6. The system of claim 1, wherein the card presence sensor causes the card reader to read transaction cards.

7. A method for controlling transaction card fabrication, comprising:

providing fabricated cards having at least one identifier formed on each card that uniquely identifies the card from others in a plurality of sets of transaction cards;

reading identifiers from the plurality of sets of cards;

comparing identifiers read from transaction cards in each set to a stored list of identifiers associated with the set;

determining if the identifiers read from transaction cards in each set match corresponding identifiers in the stored list associated with the set;

generating a report that indicates a set is complete if identifiers read from the set match a corresponding identifier in the associated stored list; and

generating a report that indicates a set is incomplete if identifiers read from the set do not all match a corresponding identifier in the associated stored list.

8. The method of claim 7, wherein the step of comparing identifiers comprises comparing the identifiers in a sequence in which the identifiers were read from the transaction cards in the set to a sequence of identifiers in the stored list.

9. The method of claim 7, wherein the step of reading identifiers from the plurality of sets of cards comprises building a temporary file of identifiers read from each set of cards, and the step of comparing identifiers comprises comparing identifiers in the temporary file to the stored list associated with each set after all transaction cards in the set have been read.

ScanGuard™ Technology
By Arthur Blank & Co.

In , Arthur Blank & Co. introduced **ScanGuard** Technology to their manufacturing process. **ScanGuard** is a high speed beam scanner based technology that has been implemented into the various stages of card production and personalization to insure accuracy in graphic design, card counts, data integrity, labeling, packaging and documentation of numerical integrity for the gift card customer.

ScanGuard Technology as it is applied to the card numbering process can be best described in this step by step methodology:

1. The card's mag stripe is encoded and/or a bar code is applied to the card through a high-speed ink jet process on Arthur Blank & Co.'s Atlantic Zieser (AZ) inkjet machines.
2. The barcode is read by a series of custom design scanners built into the production line that verifies through proprietary software that the data file imaged onto the card matches that which is contained within the customer's master file.
3. The barcode is read to insure that the card has not been duplicated in the inkjet process; it is read to insure that the cards are being inkjetted in exact sequence as to the customer's master file. Lastly the software is checking to insure that there are no missing numbers within the sequence.
4. The AZ's have an auto remake process that will automatically reject a duplicated card and remake it in line with no human intervention. Because of the **ScanGuard** Technology it will also remake a card in sequential order should it read that there is a "missing" card.
5. Once the cards have gone through this **ScanGuard** process it will go to a secondary line where the cards will again be scanned to insure no duplications, missing numbers or out of sequence issues. This secondary line will also double count the cards to insure that the count is exact.
6. Once this process has been completed and the sleeve of cards has proven to be in perfect order with no duplicates, no missing numbers, in sequential order and with an exact count, a label will then be printed to go onto the sleeve identifying the contents of that sleeve. The sleeve is banded at that point and sent on for packaging into a master carton where again our scanners are used to document the sleeves going into the master carton with the exact label describing the contents within. The same scanning process occurs with the label that is generated for the skid.
7. Under no circumstances through out this process can the label be printed unless the sleeve, master carton and skid are perfectly numbered and documented. The operators and their supervisors can not override this process.
8. With **ScanGuard** Technology Arthur Blank & Co. can give the gift card customer a complete return vendor file and is able to audit our process down to the second that the card was produced and what sleeve, master carton and skid where the card resides.

With **ScanGuard** Technology Arthur Blank & Co. has developed a fail-safe process that will allow us to produce to a very high quality level on all of the cards we personalize no matter the run size. We have removed the human intervention factor that can often times create havoc in a gift card program. For further information please contact Arthur Blank.

Card Verification Sys

( )

Utilities - Sleeve Summary Report BiLo $Gene

User - ABCO_INC\KEITH G

Sleeve Report For 687AA

Problems Were Found.

Cards Are Not In Sequence at ---3 Places.Which Are Occured At :BLGENAA0343063:BLGENAA0343061:BLGENAA0343062

Please Check The Order Of Cards,Rearrange Them,Delete The Sleeve, ReScan The Sleeve

Date Scanned:	8:54:01 PM (ABCO_INC\Tuyet N)
Date Checked:	8:54:44 PM (ABCO_INC\Robert N)
Date Label Printed:	8:56:15 PM (ABCO_INC\Jimmy L)
Date Label Reprinted:	[Not Reprinted]
# Cards Expected:	500
# Cards Assigned:	500
# Cards Scanned In The Sleeve:	500
# Cards Manually Entered:	0
# Cards Misread:	0
# Cards Misread and Not Corrected:	0
# Cards Removed:	0
# Cards Replaced:	0
# Cards Missing:	0
Number of Cards Accounted For:	500
Case:	
Cased On:	

The following problems were found:

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